

REMARKS

Examiner Nadav is thanked for his thorough examination of the Subject Patent Application. Amendments have been made to the Claims, and in so doing are now believed to render the Claims distinguishable from Examiners cited prior art and therefore be in condition for allowance.

As previously stated in response to office action of 3/20/03, the correction of original drawing for Fig. 7B, submitted 01/14/03, is withdrawn, (as Examiner suggested).

Referring to the rejection of Claims 20 - 24, based on 35 USC 112, regarding lack of support for the term "discontinuity" in independent Claim 20, the erroneous term "discontinuity" has now been omitted in amended Claim 20. The metal ring structure in Claim 20, is now described without the use of the term "discontinuous", therefore reconsideration of the rejection of Claims 20 - 24, based on 35 USC 112, is requested as a result of the amendments made to the independent Claim 20.

Referring to the rejection of Claims 20 - 24, under 35 USC 102, as being anticipated by Harada et al (US 5,341,026), independent Claim 20, has been amended to more clearly describe applicants structure and in so doing become clearly distinguishable from the Harada et al prior art. It is obvious from studying applicant's structure and comparison to any structure shown in the Harada prior art, that major structural differences exist. First applicant's metal segment located only on a portion of the top surface of the insulator layer, is therefore only attached to a

portion of the metal ring structure. This is very different than the Harada et al prior art which clearly shows the metal structure in the via hole attached to all portions of metal structure which is located on the top surface of the insulator layer. Secondly applicant's metal ring structure is comprised of metal spacers on sides of a top portion of the via hole, with the metal spacers converging and terminating at a top surface of an underlying metal plug structure. Again this feature is clearly different than Examiner's cited prior art, Harada et al, in which metal spacers do not converge and terminate at a center point of a top surface of an underlying metal structure. These major features of applicant's structure are very different than features cited in Examiner's prior art, with applicant's major features probably not previously approved as a result of inadequate semantics rather than as a result of duplicate prior art. Claim 20, has now been amended to hopefully better describe applicant's structure and in so doing become clearly distinguishable from Examiners cited prior art, Harada et al (US 5,341,026). Therefore reconsideration of independent Claim 20, and referencing dependent Claims 21 - 24, rejected based on 35 USC 102, is requested based on the amendments made as well as based on the arguments presented.

Regarding the rejection of Claims 20 - 24, under 35 USC 103, the amendments made to the Claims and the arguments presented in response to the 35 USC 102 rejection, are again used to argue the above rejections. None of Examiners prior art (Harada et al, US 5,341,026), describe the unique features of applicant's structure such as a metal ring structure located in a via hole and only attached to a metal segment which in turn located only on a portion of the top surface of

the insulator layer in which the via hole was defined in, is clearly different than the structure shown in the Harada prior art. In addition the metal spacers of applicant's metal ring structure, terminating and converging at the center of a top surface of an underlying metal plug structure, is not observed in any of Examiners cited prior art. The rejected dependent Claims 21 - 24, now refer to amended independent Claim 20. Therefore since none of Examiner's cited prior art describe the unique structural features listed in applicants amended structural invention, neither will any combination of prior art offer applicants structure. Applicant has claimed his process in detail. The structure shown in Figs. 1 - 6, 7A and 7B, and described in amended Claims 20- 24, are both believed to be novel and patentable over Examiner's cited art references because there is no evidence that these prior arts described a metal segment attached to a metal ring structure, wherein the metal ring structure in turn is comprised with metal spacers located on the sides of a top portion of a via hole, featuring termination and convergence of the metal spacers on the center of a top surface of an underlying metal plug structure. We therefore request Examiner Nadav to reconsider his rejection of Claims 20 - 24, under 35 USC 103, in view of these arguments and the amendments to the Claims.

Allowance of all Claims is requested.

TSMC99-646BCC

It is requested that should Examiner Nadav not find that the Claims are now Allowable that he call the undersigned attorney at 845-452-5863, to overcome any problems preventing allowance.

Respectfully submitted,

  
Stephen B. Ackerman, Reg # 37,761